

REMARKS

Claims 1-20 are currently pending. Claims 7, 11-13 and 18-20 have been withdrawn from consideration. Claims 1-4, 9, 10 and 14-17 are rejected under 35 U.S.C. 102 (e) as anticipated by or, in the alternative under, U.S.C. § 103(a) as obvious over Langerstedt-Eidrup et al. U.S. Patent Application Publication No. 2003/0208173.

Claims 5, 6 and 8 are rejected under U.S.C 103 (a) as being unpatentable over Lagerstedt-Eidrup et. al. in view of Ko, Kr 2003047014.

The Rejection of Claims 1-4, 9, 10, 14-17, Under U.S.C § 102(e) /103 (a)

The rejection of Claims 1-4, 9, 10, 14-17 under U.S.C § 102(e) as being anticipated by Langerstedt-Eidrup et al. or, in the alternative, under U.S.C § 103 (a) is respectfully traversed. The previous rejection has been withdrawn but a new ground(s) of rejection is made in view of a different interpretation of the prior art of Langerstedt-Eidrup et al. and a newly found reference.

For a prima facie case of anticipation a single reference must teach each and every element of the claimed invention, the elements must be arranged as in the claim, and be expressly or inherently described as interpreted by one of ordinary skill in the art.

Claim 1 cites “ An absorbent product comprising *cellulosic fibers reacted with an effective amount of a crosslinking agent in the presence of an effective amount of a C₄- C₁₀ polyol wherein the individualized intrafiber crosslinked cellulosic fibers are characterized by a Whiteness Index(WI_{CDM-L}), greater than about 69.0*”.

Langerstedt-Eidrup et al. teach an absorbent article containing a skin conditioning agent contained in a hydrogel foam material intended to be applied in skin contact with the wearer either directly or indirectly via a liquid permeable material.

The hydrogel foams are obtained, for example, by first preparing a polymerizable aqueous mixture of acid functional monoethylenically unsaturated partially neutralized monomers, optionally other monoethylenically unsaturated

monomers, a crosslinker, at least one initiator, at least one surfactant, optionally a solubilizer, thickeners, foam stabilizers, polymerization regulators, fillers and/or nucleators, [0034] - [0040]. The mixture is foamed either by dispersing fine bubbles of gas which is inert to free radicals or by dissolving an inert gas under pressure and then decompressing the mixture to atmospheric. The resulting foams can be formed into various shapes such as sheets, webs, or blocks. Subsequently the surface of the formed articles can be subjected to postcrosslinking by treating with a solution of a crosslinker such as a polyhydric alcohol (e.g. propylene glycol or butylene glycol, etc.) and the treated sheetlike structures heated to postcrosslink the surface, the crosslinkers reacting with the acid groups of the hydrogel foams to form covalent bonds [0041]. Foam layers can be prepared by one-sidedly heating or irradiating a polymerizable mixture. Sheetlike structures can be prepared by initiating the polymerization of the polymerizable foam mixture on both sides [0044].

The sheetlike constructs can be subjected to surface postcrosslinking on one or both sides of the sheet. For inhomogeneous postcrosslinking, a foam in the form of an endless roll can be subjected to inhomogeneous postcrosslinking on only one side by applying the crosslinking agents having at least two reactive groups capable of reacting with the acid groups of the hydrogel foam to one side of the hydrogel foam [0048]. (Note that none of the crosslinking agents are α -hydroxy polycarboxylic acids as used in the instant invention). Suitable crosslinking agents for the hydrogel foams are given in [0049]-[0058]. The sheetlike structures of hydrogel foams can be used directly in hygiene articles or after a surface postcrosslinking reaction which can be carried out on either one side or both sides followed by a treatment with at least one skin conditioning agent.

The Examiner has not established a prima facie case of anticipation or obviousness. Contrary to the Examiner's statements, the Langerstedt-Eidrup et. al. reference does not disclose cellulose fibers reacted with an effective amount of crosslinking agent in the presence of an effective amount of a C₄-C₁₂ polyol and does not disclose *individualized intrafiber crosslinked cellulosic* fibers with a Whiteness Index greater than about 69.0. The Examiner cites [0019] and [0048] as the fibers with these properties.

First, the fibers taught by Langerstedt-Eidrup et al. are not cellulose fibers reacted with an effective amount of a crosslinking agent in the presence of an effective amount of a C₄-C₁₂ polyol. Second, the fibers are not *intrafiber crosslinked cellulosic fibers* and the fibers do not have a Whiteness Index of greater than 69. The reference in [0019] only refers to the topsheet of a diaper which can consist of a nonwoven material composed of natural fibers such as wood pulp or cotton fibers manmade fibers such as polyester, polyethylene, polypropylene, viscose etc., of these manmade fibers, only viscose is purely cellulose, the others are oil based fibers but none are individualized intrafiber crosslinked cellulosic fibers and none have a Whiteness Index greater than about 69.0.

The Examiner also cites [0048] as support for the reference teaching individualized intrafiber crosslinked cellulosic fibers with a Whiteness Index greater than 69. Applicants submit the reference has nothing to do with intrafiber crosslinked cellulosic fibers, rather, the reference in [0048] relates to the inhomogeneous crosslinking of a hydrogel foam in which the crosslinking agents are applied to only one side of the foam and then heated to react with the acid groups of the hydrogel foam. In fact, crosslinked cellulose fibers are not even mentioned in the entire reference and the three times cellulose is mentioned, it either refers to water-absorbent polymers which can be prepared by polymerizing the acid-functional monomers, for example, in the presence of cellulose or cellulose derivatives ([0042], and [0044], or microporous cellulose as a skin conditioning agent [0086]. Cellulosic is mentioned three times, all in [0023] and all citing cellulosic fluff pulp.

Furthermore, the product structure or composition of the reference is not even closely identical to that of the claims of the instant invention and thus cannot have the inherent properties of the invention. It is only when the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes that a prima facie case of either anticipation or obviousness has been established, (MPEP 2112.01). As stated earlier, the reference does not disclose

cellulose fibers reacted with an effective amount of crosslinking agent in the presence of an effective amount of a C₄-C₁₂ polyol and does not disclose *individualized intrafiber crosslinked cellulosic* fibers with a Whiteness Index greater than about 69.0.

Since every element of the claim is not disclosed in the Langerstedt-Eidrup et al. reference, the Examiner has not established a prima facie case of anticipation. Neither has the Examiner established obviousness since the reference does not teach, disclose or suggest all the elements of the claimed invention. Furthermore, the argument of inherent properties cannot stand since there is no supporting teaching in the prior art and therefore the Examiner's rejection is improper. Withdrawal of the rejection and allowance of the claim is respectfully requested.

Claims 2, 3, 4, 9, 10, 14-17 depend on Claim 1.

With regard to Claim 2, the reference does not teach intrafiber crosslinked cellulose fibers as indicated by the Examiner and the fibers do not have an *L* value greater than about 94.5. Withdrawal of the rejection and allowance of the claim is respectfully requested.

With regard to Claim 3, the reference does not teach individualized intrafiber crosslinked cellulose fibers as indicated by the Examiner and the fibers do not have an *a* value greater than about -1.55 and less than about -0.60. Withdrawal of the rejection and allowance of the claim is respectfully requested.

With regard to Claim 4, the reference does not teach intrafiber crosslinked cellulose fibers as indicated by the Examiner and the fibers do not have a *b* value less than about 8.5. Withdrawal of the rejection and allowance of the claim is respectfully requested.

With regard to Claims 9 and 10, the reference does not teach cellulose fibers which are crosslinked with an effective amount of crosslinking agent in the presence of an effective amount of a C₄-C₁₂ polyol. *The reference to sorbitol, an acyclic polyol, is in regard to the use of this polyol as being a crosslinker in the preparation of hydrogels and is one of many compounds that*

can be used as a postcrosslinking agent. The reference does not relate to crosslinking cellulose with a crosslinking agent in the presence of a C₄-C₁₂ polyol (which would include sorbitol, a C₆ acyclic polyol). Withdrawal of the rejection and allowance of the claims is respectfully requested.

With regard to Claim 14 the reference does not teach cellulose fibers reacted with an effective amount of a crosslinking agent in the presence of an effective amount of a C₄-C₁₂ polyol where the individualized intrafiber crosslinked cellulose fibers are characterized by a Whiteness Index greater than about 69.0 and which have brightness greater than 79.0 % ISO brightness. Withdrawal of the rejection and allowance of the claim is respectfully requested.

With regard to Claim 15 the reference does not teach an absorbent article comprising cellulosic fibers reacted with an effective amount of a crosslinking agent in the presence of an effective amount of a C₄-C₁₂ polyol wherein the intrafiber crosslinked cellulosic fibers are characterized by a Whiteness Index greater than about 69.0 The reference only teaches the combination of cellulosic fibers with superabsorbent in [0022]. Withdrawal of the rejection and allowance of the claim is respectfully requested.

With regard to Claim 16 the reference does not teach an absorbent article comprising cellulosic fibers reacted with an effective amount of a crosslinking agent in the presence of an effective amount of a C₄-C₁₂ polyol with the fiber properties as cited in Claim 1 and further comprising superabsorbent material. Withdrawal of the rejection and allowance of the claim is respectfully requested.

With regard to Claim 17 the reference does not teach an absorbent article comprising cellulosic fibers reacted with an effective amount of a crosslinking agent in the presence of an effective amount of a C₄-C₁₂ polyol with the fiber properties as cited in Claim 1. The reference only teaches an absorbent body, e.g. in a diaper that has cellulosic fibers, tissue layers, absorbent foam materials, superabsorbent, and the like, [0022]. The absorbent body or core can also comprise a hydrogel foam treated with a skin

conditioning agent, [0023] and [0068]. Withdrawal of the rejection and allowance of the claim is respectfully requested.

A *prima facie* case of either anticipation or obviousness cannot be established since the reference does not disclose all the limitations of Claim 1. Also, the structure and composition recited in the reference are not similar to that of the claims of the instant invention and thus the claimed properties are not inherent. Applicants therefore request withdrawal of the rejection and allowance of the claims.

The Rejection of Claims 5, 6, 8 Under U.S.C. § 103a

Claims 5, 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Langerstedt-Eidrup et al. in view of Ko, KR200304047.

To establish a *prima facie* case of obviousness there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings, there must be a reasonable expectation of success and the prior art reference or references, when combined must teach all the claim limitations.

The teachings of Langerstedt-Eidrup et al. are cited above. Ko teaches a durable pressing finishing method for cellulose by mixing a polymer former such as melamine formaldehyde a N-methylol compound such as DMDHEU and a polycarboxylic acid such as BTCA, citric acid and malic acid, a catalyst a softener and a permeating agent to the solution and padding and batching or steaming with the solution, heating and then washing.

The Examiner has not established a *prima facie* case of obviousness. Applicants submit there is no motivation to combine the references since the preferred crosslinking agent, citric acid by itself can cause coloration of the cellulosic fibers when the treated fibers are cured at elevated temperatures required for crosslinking, page 2, line 30 – page 3, line 4 of the present application. Thus the Ko reference would only create the problem of discoloration of the fibers rather than cure it. Additionally, there is no indication in the reference of Ko that the fibers are individualized intrafiber crosslinked cellulosic fibers; application of the crosslinking

agent would be expected to result in *interfiber fiber crosslinks* since the citric acid is padded onto the fiber matrix.

Furthermore, one skilled in the art would not look to the nonanalogous art of a skin conditioning agent to combine with the fibers of Ko et al. to arrive at the present invention. Also, the combined references do not teach all the elements of the claimed invention. Applicants request withdrawal of the rejection of Claims 5, 6, and 8.

The Examiner is therefore respectfully requested to reexamine the application, to reconsider and withdraw the objections under 35 U.S.C. § 102 (e), and U.S.C. § 103 (a), and promptly allow the case and pass it to issue.

CONCLUSION

Based on the foregoing, Applicants submit that the application is in condition for allowance and request that it be allowed to proceed accordingly. If the Examiner has any further questions or comments the Examiner is invited to contact the undersigned.

Respectfully submitted



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